

## [GNFAC Avalanche Forecast for Sun Dec 22, 2013](#)

Good morning. This is Eric Knoff with the Gallatin National Forest Avalanche Advisory issued Sunday, December 22 at 7:30 a.m. [Bridger Bowl](#) and [Alpine Orthopedics](#) sponsor today's advisory. This advisory does not apply to operating ski areas.

### Mountain Weather

If fresh powder is at the top of your wish list you're in luck. Since midnight, the northern mountains have received 5-7 inches of new snow while the mountain around West Yellowstone and Cooke City picked up 2-4 inches. This latest round of moisture has been delivered on a northwest flow, which will likely persist through much of the day. By this afternoon, an additional 2-3 inches is possible in the mountains around Bozeman and Big Sky. The southern mountains should see an additional 1-2 inches.

This morning, temperatures are ranging between 10-15 degrees F and winds are blowing 10-20 mph out of the west with higher gusts being recorded around Big Sky. Today, temperatures will warm into the high teens to low twenties F and winds will continue to blow 10-20 mph out of the west. A northwest flow aloft will keep conditions unsettled for the next few days. Monday night into Tuesday looks to be the best chance for more accumulating snowfall.

### Snowpack and Avalanche Discussion

[Bridger Range](#) [Northern Gallatin Range](#)

### **AVALANCHE WARNING**

**ISSUED ON December 22<sup>nd</sup> AT 4:00 PM**

The Gallatin National Forest Avalanche Center is issuing a **Backcountry Avalanche Warning for the Bridger Range and Northern Gallatin Range**. Over the past few days more than twenty inches of snow has fallen on an unstable snowpack. Strong winds out of the west-northwest have transported snow onto leeward slopes causing additional stress. **The avalanche danger is rated HIGH on all slopes in the Bridger Range and northern Gallatin Range**. Very dangerous avalanche conditions exist. Travel in avalanche terrain is not recommended and avalanche runout zones should be avoided.

Go to [www.mtavalanche.com/current](http://www.mtavalanche.com/current) for the most current avalanche information.

This warning will either be terminated or updated by 6:30 AM on Tuesday, December 24<sup>th</sup>.

[Madison Range](#) [Southern Gallatin Range](#)

Winter has officially begun - and with it comes both good news and bad news.

The good news is it snowed. Over the past 48 hours, the mountains around Bozeman and Big Sky have received well over a foot of snow while the mountains around Cooke City and West Yellowstone picked up 4-8 inches.

Now for the bad news:( This latest storm deposited a heavy load on a weak and fragile snowpack. Yesterday, two skiers north of Bridger Bowl tipped the scales and were caught in a slide near Peter's Point just outside the

ski area boundary. The terrain is steep and rocky sending both skiers for a nasty ride. One skier suffered a severely broken leg while the other luckily escaped with minor injuries. The avalanche was triggered directly below the ridgeline and only involved the new snow. Fortunately it did not step down to faceted layers buried deeper in the pack. A huge thanks goes out the Gallatin County Search and Rescue for executing a safe and quick rescue.

In the northern Bridgers near Fairy Lake, Mark and his partner found unstable conditions yesterday as well ( [photo](#), [video](#)). They had frequent unstable results during stability tests and remotely triggered a slide from 100 ft. away.

Further south, near Big Sky, a skier experienced cracking/collapsing in Beehive Basin and the Big Sky Ski Patrol triggered a few large slides during control work.

Adding fuel to this fire, moderate winds out of the west have been blowing most of the night. Today, wind loaded slopes will be the primary avalanche concern. Natural avalanches are likely and human triggered avalanches are very likely on wind loaded slopes which have a [HIGH](#) avalanche danger. Non-wind loaded slopes have [CONSIDERABLE](#) avalanche danger.

Update: The Bridger Range is under an avalanche warning at 4 p.m.

#### Lionhead area near West Yellowstone

The Lionhead area has the shallowest and weakest snowpack in our forecast area ([video](#)). If these mountains received heavier snowfall, I expect I would be issuing an avalanche warning. However, 4-6 inches of low density snow isn't quite enough weight to warrant a high avalanche danger.

With that said – the latest storm was enough to keep the snowpack on edge.

Today, human triggered avalanches are likely and the avalanche danger is rated [CONSIDERABLE](#).

#### Cooke City

The situation near Cooke City is tricky. It's a bit like riding on a checkerboard, where some slopes are stable while others are not.

The simple part is that strong winds and new snow mean fresh wind slabs are the main avalanche problem. On Friday, a skier observed several small wind slabs that released naturally and today triggering fresh wind slabs will be easy to do. Slopes leeward to west-northwest winds will be the most likely to hold wind deposited snow.

The tricky part is finding what slopes hold buried persistent weak layers. Some slopes have a shallower snowpack where weak facets a foot off the ground can fracture and cause big avalanches. Isolated slopes have a layer of surface hoar buried 2.5 feet deep that can also fracture ([video](#)). Other slopes have a stronger snowpack over 5 feet deep where wind slabs will be the only problem. Knowing which problem exists on a given slope requires careful snowpack evaluation. For these reasons today, the avalanche danger is rated [CONSIDERABLE](#).

I will issue the next advisory tomorrow morning at 7:30 a.m. If you have any snowpack or avalanche observations drop us a line at [mtavalanche@gmail.com](mailto:mtavalanche@gmail.com) or call us at 587-6984.

**BACKCOUNTRY SKIERS AND RIDERS NEEDED FOR MSU SURVEY**

This project aims to collect GPS location information and survey responses from backcountry skiers and riders to better understand what types of terrain decision we make. The focus is on backcountry skiers and riders of all abilities and experience. You need not be an expert backcountry skier to participate in this research. For more information and to sign up: [www.montana.edu/snowscience/tracks](http://www.montana.edu/snowscience/tracks)

## **SNOWMOBILE AVALANCHE EDUCATION**

The Canadian Avalanche Association produced a series of videos titled “Throttle Decisions” on avalanche safety for snowmobilers. [Mark’s blog post](#) outlines the topics.

## **EVENTS/EDUCATION**

WEST YELLOWSTONE: Sunday, December 29, 10 a.m., **Companion Rescue Clinic for Snowmobilers**, Pre-Registration is required. <https://www.ticketriver.com/event/9387>